

DETAILED ACTION

1. This action is responsive to the request for continued examination filed on March 20, 2008. Claims 1-20 are pending. Claims 1-20 represent method and system for enabling data to be stored in a computer network; a method and a system for storing data in a computer network.

2. *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being unpatentable over
Rauhala U.S. 6,810,013

Rauhala teaches the invention as claimed including path optimization in packet-based telecommunication network (see abstract).

As to claims 1, 10, 16 and 18, Rauhala teaches a method and a system for enabling storage of data in a computer network comprising a plurality of computer nodes, wherein each computer node comprises at least one connection oriented link layer unit, the method comprising the steps of:

defining a looping path in the computer network, wherein the looping path comprises a plurality of computer nodes and connections between the computer nodes (column 3, lines 18-19); and

configuring a connection unit at each node along the looping path, the connection unit being supported by the connection oriented link layer unit (column 3, lines 23-40),

such that the connection oriented link layer unit at each computer node is able to send incoming data which is to be stored in the computer network to a next computer node along the looping path based on the connection unit (column 4, lines 1-13),

thereby providing the looping path for data to be circulated therein (column 3, lines 36-37), and

thereby enabling the storage of data in the computer network (figure 4, item 40, Rauhala discloses buffering (i.e. "storage of data") packets arriving at input port Z)

As to claims 2 and 11, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 1, wherein the connection oriented link

layer unit is implemented according to a generalized Multi-protocol Label Switching specification (figure 2).

As to claim 3, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 1, wherein a signaling framework is supported by the connection oriented link layer unit at each computer node and is implemented by a signaling protocol running on the nodes (abstract).

As to claim 4, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 3, wherein the connection unit at each computer node of the computer network is configured by a signaling message generated by the signaling protocol running on the computer nodes of the computer network (abstract).

As to claim 5, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 1, further comprising the step of setting an attribute of the connection unit at each computer node of the looping path, wherein the attribute of the connection unit is used to identify the created path as a looping path for storing data (column 6, lines 2-6).

As to claim 6, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 5, wherein the attribute of the connection unit at each computer node of the looping path is set by a signaling message generated by a

signaling protocol running on the computer nodes of the computer network (abstract).

As to claim 7, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 6, further comprising steps of identifying the looping path in the computer network by determining whether an attribute of the signaling message is set (abstract); and

preventing the identified looping path from being aborted by the signaling protocol running on the computer nodes of the computer network when the attribute of the signaling message is set to the predefined value (column 6, lines 2-6).

As to claims 8, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 7, wherein a further attribute of the signaling message having a value which is being incremented at each computer node along the looping path is set to a predefined value at least a predefined computer node of the looping path (column 5, lines 31-59).

As to claim 9, Rauhala teaches the method for enabling the storage of data in a computer network according to claim 7, wherein a further attribute of the signaling message having a node identifier of each computer node being added to it at the respective computer node of the looping path is set to a predefined value at least a predefined node of the looping path (column 5, lines 31-59).

As to claim 12, Rauhala teaches the method for storing data in a computer network according to claim 10, further comprising the steps of:

affixing a header to each data packet of the data to be injected into the identified looping path at the node, wherein the header is associated with the identified looping path (abstract);

determining a forwarding path information of the header affixed to the data packet by the connection oriented link layer unit at the computer node (column 3, line 67 to column 4, line 1)); and

affixing further a connection oriented link layer header to the data packet affixed with the header by the connection oriented link layer unit at the computer node, wherein the connection oriented link layer header comprises an outgoing label which maps the data packet into the identified looping path (column 3, lines 18-19), thereby storing the data in the computer network (figure 4, item 40, Rauhala discloses buffering (i.e. "storage of data") packets arriving at input port Z)

As to claim 13, Rauhala teaches the method for storing data in a computer network according to claim 12, wherein a time to live field of the connection oriented link layer header having a value which is being decremented at each computer node is set to a predefined value by the unit at least one computer node along the identified looping path (column 5, lines 31-59).

As to claim 14, Rauhala teaches the method for storing data in a computer

network according to claim 10, wherein data stored in the looping path of the computer network is removed by setting an administrative bit in a signaling message generated by a signaling protocol running on the computer nodes of the computer network to a predefined value (column 6, lines 2-6); and

sending the signaling message to a computer node along the looping path, thereby setting an administrative attribute of a connection unit at the computer node and causing the computer node to remove the data stored in the looping path of the computer network (column 6, lines 44-50).

As to claim 15, Rauhala teaches the method for storing data in a computer network according to claim 10, wherein data stored in the looping path of the computer network is read by sending an experimental message generated by a signaling protocol running on the computer nodes of the computer network to a computer node along the looping path, thereby setting a duplicate attribute of a connection unit at the computer node and causing the computer node to duplicate the data stored in the looping path of the computer network (column 5, lines 31-59).

As to claim 17, Rauhala teaches the system for enabling storage of data in a computer network according to claim 16, wherein the connections between computer nodes are optical fibers (column 1, lines 23-25, Rauhala discloses connection-oriented packet network in the B-ISDN networks (i.e. integration of communications services transported over digital facilities such as optical fibers. ISDN provides end-to-end digital

connectivity between any two (or more) communications devices. Information enters, passes through, and exits the network in a completely digital fashion)).

As to claim 19, Rauhala teaches a system for storing of data in a computer network according to claim 18, each computer node further comprises a removal unit for removing the injected data in the looping path when an administrative attribute of a connection unit is set, thereby causing the computer node to remove the data stored in the looping path of the computer network (column 6, lines 2-6).

4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rauhala U.S. 6,810,013 in view of Miller et al. U.S. 6,735,604.

Rauhala teaches the invention substantially as claimed including path optimization in a packet-based telecommunication network (see abstract).

As to claim 20, Rauhala teaches a system for storing of data in a computer network according to claim 18.

Rauhala fails to teach explicitly to retrieve the data stored.

However, Miller teaches method for storing and retrieving data objects. Miller teaches to retrieve the data stored (column 6, line 54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Rauhala in view of Miller to provide each computer node further comprises a retrieval unit for duplicating the injected data in the looping path when a duplicate attribute of a connection unit is set, thereby causing the computer node to retrieve the data stored in the looping path of the computer network. One would be motivated to do so to allow calling up data that has been stored when it is needed.

6. Conclusion

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention

Any inquiry concerning this communication or earlier communications from the examiner should be directed to El Hadji M Sall whose telephone number is 571-272-4010. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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/El Hadji M Sall/

Examiner, Art Unit 2157

/Ario Etienne/

Supervisory Patent Examiner, Art Unit 2157